

#### SEQUENCE LISTING

<110> Abbott Laboratories
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<120> NOVEL ANTIGEN CONSTRUCTS USEFUL IN THE DETECTION AND DIFFERENTIATION OF ANTIBODIES TO HIV

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<213> Human Immunodeficiency Virus

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Thr Ile Tyr Glu Glu Ile Gln Lys Ala Gln Val Gln Glu Gln Asn
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Glu Lys Lys Leu Glu Leu Asp Glu Trp Ala Ser Leu Trp Asn Trp
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540

600

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960

1020

1080

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1200 1260

1320

1380

1440

1476

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                                25
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Thr Asp His Glu Asp Val Ala Arg Ala Val Glu Ala Ala Gly Gly Glu
Val Cys Met Thr Arg Ala Asp His Gln Ser Gly Thr Glu Arg Leu Ala
                    70
                                        75
                                                             80
Glu Val Val Glu Lys Cys Ala Phe Ser Asp Asp Thr Val Ile Val Asn
                                    90
Val Gln Gly Asp Glu Pro Met Ile Pro Ala Thr Ile Ile Arg Gln Val
            100
                                105
Ala Asp Asn Leu Ala Gln Arg Gln Val Gly Met Thr Thr Leu Ala Val
Pro Ile His Asn Ala Glu Glu Ala Phe Asn Pro Asn Ala Val Lys Val
Val Leu Asp Ala Glu Gly Tyr Ala Leu Tyr Phe Ser Arg Ala Thr Ile
                                        155
                    150
Pro Trp Asp Arg Asp Arg Phe Ala Glu Gly Leu Glu Thr Val Gly Asp
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                                    170
Asn Phe Leu Arg His Leu Gly Ile Tyr Gly Tyr Arg Ala Gly Phe Ile
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                                                     190
Arg Arg Tyr Val Asn Trp Gln Pro Ser Pro Leu Glu His Ile Glu Met
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                        215
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Val Ala Gln Glu Val Pro Gly Thr Gly Val Asp Thr Pro Glu Asp Leu
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235

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               245
                                   250
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Glu Lys Arg Ala Val Gly Leu Gly Met Leu Phe Leu Gly Val Leu Ser
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Thr His Ser Val Ile Lys Gly Ile Val Gln Gln Asp Asn Leu Leu
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Asp Asn Val Ser Ser Thr Ile Tyr Glu Glu Ile Gln Lys Ala Gln Val
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Gln Gln Gln Gln Asn Glu Lys Lys Leu Leu Glu Leu Asp Glu Trp Ala
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Ser Leu Trp Asn Trp Leu Asp Ile Thr Lys Trp Leu Arg Asn Ile Arg
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ctgatccaga	accagcagct	gctgaacctg	tggggctgca	aaggtcgtct	gatctgctac	420
acctccgtta	aatggaacga	aacctggcgt	aacaccacca	acatcaacca	gatctggggt	480
aacctgacct	ggcaggaatg	ggaccagcag	atcgacaacg	tttcttccac	catctacgaa	540
gaaatccaga	aagctcaggt	tcagcaggaa	cagaacgaaa	aaaaactgct	ggaactggac	600
gaatgggctt	ctctgtggaa	ctggctggac	atcaccaaat	ggctgcgtaa	catccgtcag	660
ggctaccagc	cgctgtccct	gcagatcccg	acccgtcagc	agtctgaagc	tgaaactccg	720
ggtcgtaccg	gtgaaggtgg	tggtgacgaa	ggccgtccgc	gtctgatccc	gtctccgcag	780
ggtttcctgc	cgctgctgta	caccgacctg	cgtaccatca	tcctgtggtc	ctaccacctg	840

ctgtctaacc tgatctctgg tactcagact gttatctctc acctgcgtct gggtctgtgg attctgggtc agaaaatcat cgacgcttgc cgtatctgcg ctgctgttat ccactactgg ctgcaggaac tgcagaaatc cgctacctcc ctgatcgaca ccttcgctgt tgcagttgct aactggactg acgacatcat cctgggtatc cagcgtctgg gtcgtggtat cctgaacatc ccgcgtcgtg ttcgccaggg cttcgaacgc tctctgctgt aatag													
<210> 52 <211> 373													
<212> PRT													
<213> Human Immunodeficiency Virus													
<220>													
<223> Encodes recombinant protein pGO-11PL													
<400> 52													
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Tyr Lys Val Val Arg Val Lys Pro Phe Ser Val Ala Pro Thr Pro Ile 20 25 30													
Ala Arg Pro Val Ile Gly Thr Gly Thr His Arg Glu Lys Arg Ala Val													
Gly Leu Gly Met Leu Phe Leu Gly Val Leu Ser Ala Ala Gly Ser Thr													
Met Gly Ala Ala Thr Ala Leu Thr Val Gln Thr His Ser Val Ile													
65 70 75 80 Lys Gly Ile Val Gln Gln Asp Asn Leu Leu Arg Ala Ile Gln Ala													
85 90 95													
Gln Glu Leu Leu Arg Leu Ser Val Trp Gly Ile Arg Gln Leu Arg 100 105 110													
Ala Arg Leu Leu Ala Leu Glu Thr Leu Ile Gln Asn Gln Gln Leu Leu 115 120 125													
Asn Leu Trp Gly Cys Lys Gly Arg Leu Ile Cys Tyr Thr Ser Val Lys 130 135 140													
Trp Asn Glu Thr Trp Arg Asn Thr Thr Asn Ile Asn Gln Ile Trp Gly													
145 150 155 160 Asn Leu Thr Trp Gln Glu Trp Asp Gln Gln Ile Asp Asn Val Ser Ser													
165 170 175													
Thr Ile Tyr Glu Glu Ile Gln Lys Ala Gln Val Gln Glu Gln Asn 180 185 190													
Glu Lys Lys Leu Glu Leu Asp Glu Trp Ala Ser Leu Trp Asn Trp  195 200 205													
Leu Asp Ile Thr Lys Trp Leu Arg Asn Ile Arg Gln Gly Tyr Gln Pro 210 215 220													
Leu Ser Leu Gln Ile Pro Thr Arg Gln Gln Ser Glu Ala Glu Thr Pro 225 230 235 240													
Gly Arg Thr Gly Glu Gly Gly Gly Asp Glu Gly Arg Pro Arg Leu Ile 245 250 255													
Pro Ser Pro Gln Gly Phe Leu Pro Leu Leu Tyr Thr Asp Leu Arg Thr 260 265 270													
Ile Ile Leu Trp Ser Tyr His Leu Leu Ser Asn Leu Ile Ser Gly Thr 275 280 285													
Gln Thr Val Ile Ser His Leu Arg Leu Gly Leu Trp Ile Leu Gly Gln 290 295 300													
Lys Ile Ile Asp Ala Cys Arg Ile Cys Ala Ala Val Ile His Tyr Trp 305 310 315 320													
Leu Gln Glu Leu Gln Lys Ser Ala Thr Ser Leu Ile Asp Thr Phe Ala													
325 330 335													

```
Val Ala Val Ala Asn Trp Thr Asp Asp Ile Ile Leu Gly Ile Gln Arg
            340
                                345
Leu Gly Arg Gly Ile Leu Asn Ile Pro Arg Arg Val Arg Gln Gly Phe
                            360
Glu Arg Ser Leu Leu
    370
      <210> 53
      <211> 1860
      <212> DNA
      <213> Human Immunodeficiency Virus
      <220>
      <223> Nucleotide sequence of the coding region of
            pGO-11CKS
      <400> 53
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ttggttgata ttaacggcaa acccatgatt gttcatgttc ttgaacgcgc gcgtgaatca
                                                                       120
ggtgccgagc gcatcatcgt ggcaaccgat catgaggatg ttgcccgcgc cgttgaagcc
                                                                       180
gctggcggtg aagtatgtat gacgcgcgcc gatcatcagt caggaacaga acgtctggcg
                                                                       240
gaagttgtcg aaaaatgcgc attcagcgac gacacggtga tcgttaatgt gcagggtgat
                                                                       300
gaaccgatga tecetgegac aatcattegt caggttgetg ataaectege teagegteag
                                                                       360
gtgggtatga cgactctggc ggtgccaatc cacaatgcgg aagaagcgtt taacccqaat
                                                                       420.
geggtgaaag tggttctcga cqctqaaqqq tatqcactqt acttctctcq cqccaccatt
                                                                       480
ccttgggatc gtgatcgttt tgcaqaaqqc cttgaaaccq ttgqcqataa cttcctqcqt
                                                                       540
catcttgqta tttatqqcta ccqtqcaqqc tttatccqtc qttacqtcaa ctqqcaqcca
                                                                       600
agtccgttag aacacatcga aatgttagag cagcttcgtg ttctgtggta cggcgaaaaa
                                                                       660
atccatgttg ctgttgctca ggaagttcct ggcacaggtg tggatacccc tgaaqatctc
                                                                       720
gacccgtcga cgaattctat cggtggtgac atgaaagaca tctgqcqtaa cqaactqttc
                                                                       780
aaatacaaag ttgttcgtgt taaaccqttc tctqttgctc cgaccccqat cqctcqtccq
                                                                       840
gttatcggta ctggcaccca ccgtgaaaaa cgtgctgtag gtctgggtat gctgttcctg
                                                                       900
ggcgttctgt ctgcagcagg ttccactatg ggtgctgcag ctaccgctct gaccgtacag
                                                                       960
acceaetetg ttateaaagg tategtaeag eageaggaea acetgetgeg tgeaateeag
                                                                      1020
gcacagcagg aactgctgcg tctgtctgta tggggtatcc gtcagctgcg tgctcgtctg
                                                                      1080
ctggcactgg aaaccctgat ccagaaccag cagctgctga acctgtgggg ctgcaaaggt
                                                                      1140
cgtctgatct gctacacctc cgttaaatgg aacgaaacct ggcgtaacac caccaacatc
                                                                      1200
aaccagatct ggggtaacct gacctggcag gaatgggacc agcagatcga caacgtttct
                                                                      1260
tccaccatct acgaagaaat ccagaaagct caggttcagc aggaacagaa cgaaaaaaaa
                                                                      1320
ctgctggaac tggacgaatg ggcttctctg tggaactggc tggacatcac caaatggctg
                                                                      1380
cgtaacatcc gtcagggcta ccagccgctg tccctgcaga tcccgacccg tcagcagtct
                                                                      1440
gaagetgaaa eteegggteg taceggtgaa ggtggtggtg acgaaggeeg teegegtetg
                                                                      1500
atcocgtote egeagggttt cotgeogotg otgtacacog acctgogtac catcatootg
                                                                      1560
tggtcctacc acctgctgtc taacctgatc tctggtactc agactgttat ctctcacctg
                                                                      1620
egtetgggte tgtggattet gggteagaaa ateategaeg ettgeegtat etgegetget
                                                                      1680
gttatccact actggctgca ggaactgcag aaatccgcta cctccctgat cgacaccttc
                                                                      1740
gctgttgcag ttgctaactg gactgacgac atcatectgg gtatecageg tetgggtegt
                                                                      1800
ggtatcctga acatcccgcg tcgtgttcgc cagggcttcg aacgctctct gctgtaatag
                                                                      1860
      <210> 54
      <211> 618
      <213> Human Immunodeficiency Virus
      <220>
      <223> Encodes recombinant protein pGO-11CKS
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<400> 54
Met Ser Phe Val Val Ile Ile Pro Ala Arg Tyr Ala Ser Thr Arg Leu
                                    10
Pro Gly Lys Pro Leu Val Asp Ile Asn Gly Lys Pro Met Ile Val His
           2.0
                                25
Val Leu Glu Arg Ala Arg Glu Ser Gly Ala Glu Arg Ile Ile Val Ala
                            40
Thr Asp His Glu Asp Val Ala Arg Ala Val Glu Ala Ala Gly Glu Glu
                       55
Val Cys Met Thr Arg Ala Asp His Gln Ser Gly Thr Glu Arg Leu Ala
                   70
                                        75
Glu Val Val Glu Lys Cys Ala Phe Ser Asp Asp Thr Val Ile Val Asn
               85
                                    90
Val Gln Gly Asp Glu Pro Met Ile Pro Ala Thr Ile Ile Arq Gln Val
                               105
Ala Asp Asn Leu Ala Gln Arg Gln Val Gly Met Thr Thr Leu Ala Val
                            120
Pro Ile His Asn Ala Glu Glu Ala Phe Asn Pro Asn Ala Val Lys Val
                        135
Val Leu Asp Ala Glu Gly Tyr Ala Leu Tyr Phe Ser Arg Ala Thr Ile
                   150
                                        155
Pro Trp Asp Arg Asp Arg Phe Ala Glu Gly Leu Glu Thr Val Gly Asp
               165
                                    170
Asn Phe Leu Arg His Leu Gly Ile Tyr Gly Tyr Arg Ala Gly Phe Ile
                                185
Arg Arg Tyr Val Asn Trp Gln Pro Ser Pro Leu Glu His Ile Glu Met
                            200
Leu Glu Gln Leu Arg Val Leu Trp Tyr Gly Glu Lys Ile His Val Ala
                       215
                                            220
Val Ala Gln Glu Val Pro Gly Thr Gly Val Asp Thr Pro Glu Asp Leu
                   230
                                        235
Asp Pro Ser Thr Asn Ser Ile Gly Gly Asp Met Lys Asp Ile Trp Arg
               245
                                    250
Asn Glu Leu Phe Lys Tyr Lys Val Val Arg Val Lys Pro Phe Ser Val
                                265
Ala Pro Thr Pro Ile Ala Arg Pro Val Ile Gly Thr Gly Thr His Arg
                            280
                                                285
Glu Lys Arg Ala Val Gly Leu Gly Met Leu Phe Leu Gly Val Leu Ser
                        295
                                            300
Ala Ala Gly Ser Thr Met Gly Ala Ala Ala Thr Ala Leu Thr Val Gln
                    310
                                        315
Thr His Ser Val Ile Lys Gly Ile Val Gln Gln Asp Asn Leu Leu
                325
                                    330
Arg Ala Ile Gln Ala Gln Glu Leu Leu Arg Leu Ser Val Trp Gly
                                345
Ile Arg Gln Leu Arg Ala Arg Leu Leu Ala Leu Glu Thr Leu Ile Gln
                            360
Asn Gln Gln Leu Leu Asn Leu Trp Gly Cys Lys Gly Arg Leu Ile Cys
                        375
Tyr Thr Ser Val Lys Trp Asn Glu Thr Trp Arg Asn Thr Thr Asn Ile
                    390
                                        395
Asn Gln Ile Trp Gly Asn Leu Thr Trp Gln Glu Trp Asp Gln Gln Ile
                405
                                    410
Asp Asn Val Ser Ser Thr Ile Tyr Glu Glu Ile Gln Lys Ala Gln Val
                                425
Gln Gln Glu Gln Asn Glu Lys Lys Leu Leu Glu Leu Asp Glu Trp Ala
                            440
```

```
Ser Leu Trp Asn Trp Leu Asp Ile Thr Lys Trp Leu Arg Asn Ile Arg
                       455
Gln Gly Tyr Gln Pro Leu Ser Leu Gln Ile Pro Thr Arg Gln Gln Ser
                   470
                                        475
Glu Ala Glu Thr Pro Gly Arg Thr Gly Glu Gly Gly Asp Glu Gly
                485
                                    490
Arg Pro Arg Leu Ile Pro Ser Pro Gln Gly Phe Leu Pro Leu Leu Tyr
                               505
Thr Asp Leu Arg Thr Ile Ile Leu Trp Ser Tyr His Leu Leu Ser Asn
                            520
                                                525
Leu Ile Ser Gly Thr Gln Thr Val Ile Ser His Leu Arg Leu Gly Leu
                       535
                                            540
Trp Ile Leu Gly Gln Lys Ile Ile Asp Ala Cys Arg Ile Cys Ala Ala
                   550
                                        555
Val Ile His Tyr Trp Leu Gln Glu Leu Gln Lys Ser Ala Thr Ser Leu
               565
                                   570
Ile Asp Thr Phe Ala Val Ala Val Ala Asn Trp Thr Asp Asp Ile Ile
                               585
Leu Gly Ile Gln Arg Leu Gly Arg Gly Ile Leu Asn Ile Pro Arg Arg
                           600
Val Arg Gln Gly Phe Glu Arg Ser Leu Leu
      <210> 55
      <211> 466
      <212> PRT
      <213> Human Immunodeficiency Virus
      <223> HIV-2 recombinant peptide (pHIV-210)
     <400> 55
Met Ser Phe Val Val Ile Ile Pro Ala Arg Tyr Ala Ser Thr Arg Leu
Pro Gly Lys Pro Leu Val Asp Ile Asn Gly Lys Pro Met Ile Val His
                                2.5
Val Leu Glu Arg Ala Arg Glu Ser Gly Ala Glu Arg Ile Ile Val Ala
Thr Asp His Glu Asp Val Ala Arg Ala Val Glu Ala Ala Gly Gly Glu
                        55
Val Cys Met Thr Arg Ala Asp His Gln Ser Gly Thr Glu Arg Leu Ala
                    70
                                        75
Glu Val Val Glu Lys Cys Ala Phe Ser Asp Asp Thr Val Ile Val Asn
                85
                                    90
Val Gln Gly Asp Glu Pro Met Ile Pro Ala Thr Ile Ile Arg Gln Val
            100
                                105
Ala Asp Asn Leu Ala Gln Arg Gln Val Gly Met Thr Thr Leu Ala Val
                            120
Pro Ile His Asn Ala Glu Glu Ala Phe Asn Pro Asn Ala Val Lys Val
                        135
                                            140
Val Leu Asp Ala Glu Gly Tyr Ala Leu Tyr Phe Ser Arg Ala Thr Ile
                    150
                                        155
Pro Trp Asp Arg Asp Phe Ala Glu Gly Leu Glu Thr Val Gly Asp
                165
                                    170
                                                        175
Asn Phe Leu Arg His Leu Gly Ile Tyr Gly Tyr Arg Ala Gly Phe Ile
                                185
Arg Arg Tyr Val Asn Trp Gln Pro Ser Pro Leu Glu His Ile Glu Met
```

```
195
                            200
Leu Glu Gln Leu Arg Val Leu Trp Tyr Gly Glu Lys Ile His Val Ala
                     215
                                           220
Val Ala Gln Glu Val Pro Gly Thr Gly Val Asp Thr Pro Glu Asp Leu
                 230
                                       235
Asp Pro Ser Thr Asn Ser Met Glu Gly Glu Leu Thr Cys Asn Ser Thr
               245
                                   250
Val Thr Ser Ile Ile Ala Asn Ile Asp Ser Asp Gly Asn Gln Thr Asn
                               265
Ile Thr Phe Ser Ala Glu Val Ala Glu Leu Tyr Arg Leu Glu Leu Gly
                           280
Asp Tyr Lys Leu Ile Glu Val Thr Pro Ile Gly Phe Ala Pro Thr Lys
                       295
Glu Lys Arg Tyr Ser Ser Ala Pro Val Arg Asn Lys Arg Gly Val Phe
Val Leu Gly Phe Leu Gly Phe Leu Ala Thr Ala Gly Ser Ala Met Gly
                325
                                    330
Ala Ala Ser Leu Thr Leu Ser Ala Gln Ser Arg Thr Leu Leu Ala Gly
                                345
Ile Val Gln Gln Gln Gln Leu Leu Asp Val Val Lys Arg Gln Gln
                            360
Glu Met Leu Arg Leu Thr Val Trp Gly Thr Lys Asn Leu Gln Ala Arg
                        375
Val Thr Ala Ile Glu Lys Tyr Leu Lys Asp Gln Ala Gln Leu Asn Ser
                    390
                                        395
Trp Gly Cys Ala Phe Arg Gln Val Cys His Thr Thr Val Pro Trp Val
                405
                                    410
Asn Asp Ser Leu Thr Pro Asp Trp Asn Asn Met Thr Trp Gln Glu Trp
                                425
Glu Lys Arg Val His Tyr Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu
                            440
Gln Ala Gln Ile Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu
                        455
Asn Ser
465
      <210> 56
      <211> 491
      <212> PRT
      <213> Human Immunodeficiency Virus
      <223> HIV-1 Group M recombinant peptide (pTB319)
      <400> 56
Met Ser Phe Val Val Ile Ile Pro Ala Arg Tyr Ala Ser Thr Arg Leu
    5
                                    10
 Pro Gly Lys Pro Leu Val Asp Ile Asn Gly Lys Pro Met Ile Val His
Val Leu Glu Arg Ala Arg Glu Ser Gly Ala Glu Arg Ile Ile Val Ala
 Thr Asp His Glu Asp Val Ala Arg Ala Val Glu Ala Ala Gly Gly Glu
                        55
Val Cys Met Thr Arg Ala Asp His Gln Ser Gly Thr Glu Arg Leu Ala
                                        75
Glu Val Val Glu Lys Cys Ala Phe Ser Asp Asp Thr Val Ile Val Asn
                                    90
```

```
Val Gln Gly Asp Glu Pro Met Ile Pro Ala Thr Ile Ile Arg Gln Val
           100
                               105
Ala Asp Asn Leu Ala Gln Arg Gln Val Gly Met Ala Thr Leu Ala Val
       115
                           120
                                               125
Pro Ile His Asn Ala Glu Glu Ala Phe Asn Pro Asn Ala Val Lys Val
                       135
                                           140
Val Leu Asp Ala Glu Gly Tyr Ala Leu Tyr Phe Ser Arg Ala Thr Ile
                   150
                                        155
Pro Trp Asp Arg Asp Phe Ala Glu Gly Leu Glu Thr Val Gly Asp
               165
                                    170
Asn Phe Leu Arg His Leu Gly Ile Tyr Gly Tyr Arg Ala Gly Phe Ile
           180
                               185
Arg Arg Tyr Val Asn Trp Gln Pro Ser Pro Leu Glu His Ile Glu Met
                            200
Leu Glu Gln Leu Arg Val Leu Trp Tyr Gly Glu Lys Ile His Val Ala
                       215
                                            220
Val Ala Gln Glu Val Pro Gly Thr Gly Val Asp Thr Pro Glu Asp Pro
                   230
                                        235
Ser Thr Ala Leu Met Lys Ile Pro Gly Asp Pro Gly Gly Gly Asp Met
                                    250
Arg Asp Asn Trp Arg Ser Glu Leu Tyr Lys Tyr Lys Val Val Lys Ile
           260
                                265
Glu Pro Leu Gly Val Ala Pro Thr Lys Ala Lys Arg Arg Val Val Gln
                            280
Arg Glu Lys Arg Ala Val Gly Ile Gly Ala Leu Phe Leu Gly Phe Leu
                        295
                                            300
Gly Ala Ala Gly Ser Thr Met Gly Ala Ala Ser Met Thr Leu Thr Val
                    310
                                        315
Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Asn Asn Leu
               325
                                    330
Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp
                                345
Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
       355
                            360
Lys Asp Gln Gln Leu Leu Gly Ile Trp Gly Cys Ser Gly Lys Leu Ile
                        375
                                            380
Cys Thr Thr Ala Val Pro Trp Asn Ala Ser Trp Ser Asn Lys Ser Leu
                    390
                                        395
Glu Gln Ile Trp Asn Asn Met Thr Trp Met Glu Trp Asp Arg Glu Ile
               405
                                    410
Asn Asn Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn
                                425
Gln Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Val
                            440
Asn Arg Val Arg Gln Gly Tyr Ser Pro Leu Ser Phe Gln Thr His Leu
                        455
Pro Ile Pro Arg Gly Pro Asp Arg Pro Glu Gly Ile Glu Lys Lys Ala
                    470
                                        475
Ala Asn Val Thr Val Thr Val Pro Phe Val Trp
                485
```

<sup>&</sup>lt;210> 57

<sup>&</sup>lt;211> 651

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Human Immunodeficiency Virus

60

120

180

240

300

360

420

480

540

600

651

<223> Nucleotide sequence of the coding region of pGO-8PL

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<400> 57
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cgtgttaaac cgttctctgt tgctccgacc ccgatcgctc gtccggttat cggtactggc
acccaccgtg aaaaacgtgc tgtaggtctg ggtatgctgt tcctgggcgt tctgtctgca
gcaggttcca ctatgggtgc tgcagctacc gctctgaccg tacagaccca ctctgttatc
aaaggtatcg tacagcagca ggacaacctg ctgcgtgcaa tccaggcaca gcaggaactg
ctgcgtctgt ctgtatgggg tatccgtcag ctgcgtgctc gtctgctggc actggaaacc
ctgatccaga accagcaget getgaacetg tggggetgea aaggtegtet gatetgetae
acctccgtta aatggaacga aacctggcgt aacaccacca acatcaacca gatctggggt
aacctgacct ggcaggaatg ggaccagcag atcgacaacg tttcttccac catctacgaa
gaaatccaga aagctcaggt tcagcaggaa cagaacgaaa aaaaactgct ggaactqgac
gaatgggctt ctctgtggaa ctggctggac atcaccaaat ggctgtaata g
      <210> 58
      <211> 215
      <212> PRT
      <213> Human Immunodeficiency Virus
      <223> Encodes recombinant protein pGO-8PL
      <400> 58
Met Ile Gly Gly Asp Met Lys Asp Ile Trp Arg Asn Glu Leu Phe Lys
                 5
                                    10
Tyr Lys Val Val Arg Val Lys Pro Phe Ser Val Ala Pro Thr Pro Ile
                                25
Ala Arg Pro Val Ile Gly Thr Gly Thr His Arg Glu Lys Arg Ala Val
                            40
                                                45
Gly Leu Gly Met Leu Phe Leu Gly Val Leu Ser Ala Ala Gly Ser Thr
                        55
Met Gly Ala Ala Thr Ala Leu Thr Val Gln Thr His Ser Val Ile
                    70
                                        75
Lys Gly Ile Val Gln Gln Gln Asp Asn Leu Leu Arg Ala Ile Gln Ala
                                    90
Gln Glu Leu Leu Arg Leu Ser Val Trp Gly Ile Arg Gln Leu Arg
                                105
                                                    110
Ala Arg Leu Leu Ala Leu Glu Thr Leu Ile Gln Asn Gln Gln Leu Leu
Asn Leu Trp Gly Cys Lys Gly Arg Leu Ile Cys Tyr Thr Ser Val Lys
                        135
                                            140
Trp Asn Glu Thr Trp Arg Asn Thr Thr Asn Ile Asn Gln Ile Trp Gly
                    150
                                        155
Asn Leu Thr Trp Gln Glu Trp Asp Gln Gln Ile Asp Asn Val Ser Ser
                                    170
Thr Ile Tyr Glu Glu Ile Gln Lys Ala Gln Val Gln Gln Gln Asn
Glu Lys Lys Leu Leu Glu Leu Asp Glu Trp Ala Ser Leu Trp Asn Trp
                            200
Leu Asp Ile Thr Lys Trp Leu
      <210> 59
      <211> 1386
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<212> DNA

<213> Human Immunodeficiency Virus

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<220>
      <223> Nucleotide sequence of the coding region of
            pGO-8CKS
      <400> 59
atgagttttg tggtcattat tcccgcgcgc tacgcgtcga cgcgtctgcc cggtaaacca
                                                                        60
ttggttgata ttaacggcaa acccatgatt gttcatgttc ttgaacgcgc gcgtgaatca
                                                                       120
ggtgccgagc gcatcatcgt ggcaaccgat catgaggatg ttgcccgcgc cgttgaagcc
                                                                       180
gctggcggtg aagtatgtat gacgcgcgcc gatcatcagt caggaacaga acgtctggcg
                                                                       240
gaagttgtcg aaaaatgcgc attcagcgac gacacggtga tcgttaatgt gcagggtgat
                                                                       300
gaaccgatga tecetgegae aatcattegt caggttgetg ataacctege teagegteag
                                                                       360
gtgggtatga cgactctggc ggtgccaatc cacaatgcgg aagaagcgtt taacccqaat
                                                                       420
geggtgaaag tggttetega egetgaaggg tatqeactgt actteteteg eqecaceatt
                                                                       480
ccttgggatc gtgatcgttt tqcaqaaqqc cttqaaaccg ttgqcqataa cttcctqcqt
                                                                       540
catcttqqta tttatqqcta ccqtqcaqqc tttatccqtc qttacqtcaa ctqqcaqcca
                                                                       600
aqtccqttaq aacacatcqa aatqttaqaq caqcttcqtq ttctqtqqta cqqcqaaaaa
                                                                       660
atccatgttg ctgttgctca ggaagttcct ggcacaggtg tggatacccc tgaaqatctc
                                                                       720
gacccgtcga cgaattctat cggtggtgac atgaaagaca tctggcgtaa cgaactgttc
                                                                       780
aaatacaaag ttgttcgtgt taaaccgttc tctgttgctc cgaccccgat cgctcgtccg
                                                                       840
gttatcggta ctggcaccca ccgtgaaaaa cgtgctgtag gtctgggtat gctgttcctg
                                                                       900
ggcgttctgt ctgcagcagg ttccactatg ggtgctgcag ctaccgctct gaccgtacag
                                                                       960
acceaetetg ttateaaagg tategtacag cageaggaca acctgetgeg tgeaatecag
                                                                      1020
gcacagcagg aactgctgcg tctgtctgta tggggtatcc gtcagctgcg tgctcgtctg
                                                                      1080
ctggcactgg aaaccctgat ccagaaccag cagctgctga acctgtgggg ctgcaaaggt
                                                                      1140
cgtctgatct gctacacctc cgttaaatgg aacgaaacct ggcgtaacac caccaacatc
                                                                      1200
aaccagatct ggggtaacct gacctggcag gaatgggacc agcagatcga caacgtttct
                                                                      1260
tccaccatct acgaagaaat ccagaaagct caggttcagc aggaacagaa cgaaaaaaaa
                                                                      1320
ctgctggaac tggacgaatg ggcttctctg tggaactggc tggacatcac caaatggctq
                                                                      1380
taataq
                                                                      1386
      <210> 60
      <211> 460
      <212> PRT
      <213> Human Immunodeficiency Virus
      <223> Encodes recombinant protein pGO-8CKS
      <400> 60
Met Ser Phe Val Val Ile Ile Pro Ala Arg Tyr Ala Ser Thr Arg Leu
1
                 5
                                    10
Pro Gly Lys Pro Leu Val Asp Ile Asn Gly Lys Pro Met Ile Val His
Val Leu Glu Arg Ala Arg Glu Ser Gly Ala Glu Arg Ile Ile Val Ala
Thr Asp His Glu Asp Val Ala Arq Ala Val Glu Ala Ala Gly Gly Glu
Val Cys Met Thr Arg Ala Asp His Gln Ser Gly Thr Glu Arg Leu Ala
                                        75
Glu Val Glu Lys Cys Ala Phe Ser Asp Asp Thr Val Ile Val Asn Val
                                    90
                85
Val Gln Gly Asp Glu Pro Met Ile Pro Ala Thr Ile Ile Arg Gln Val
            100
                                105
Ala Asp Asn Leu Ala Gln Arg Gln Val Gly Met Thr Thr Leu Ala Val
                            120
```

```
Pro Ile His Asn Ala Glu Glu Ala Phe Asn Pro Asn Ala Val Lys Val
                       135
Val Leu Asp Ala Glu Gly Tyr Ala Leu Tyr Phe Ser Arg Ala Thr Ile
                   150
                                        155
Pro Trp Asp Arg Asp Arg Phe Ala Glu Gly Leu Glu Thr Val Gly Asp
               165
                                    170
                                                        175
Asn Phe Leu Arg His Leu Gly Ile Tyr Gly Tyr Arg Ala Gly Phe Ile
                                                   190
           180
                               185
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Val Ala Gln Glu Val Pro Gly Thr Gly Val Asp Thr Pro Glu Asp Leu
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Asp Pro Ser Thr Asn Ser Ile Gly Gly Asp Met Lys Asp Ile Trp Arg
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Glu Lys Arg Ala Val Gly Leu Gly Met Leu Phe Leu Gly Val Leu Ser
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Ala Ala Gly Ser Thr Met Gly Ala Ala Ala Thr Ala Leu Thr Val Gln
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Tyr Thr Ser Val Lys Trp Asn Glu Thr Trp Arg Asn Thr Thr Asn Ile
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Lys His Asn Val Trp Ala Ser Gln Ala Cys Val Pro Thr Asp Pro Thr
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Pro His Glu Tyr Leu Leu Thr Asn Val Thr Asp Asn Phe Asn Ile Trp
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Cys His Gly Glu Phe Phe Tyr Cys Asn Thr Ser Glu Met Phe Asn Tyr
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Ser Ala Asn Gly Met Ile Pro Cys Lys Leu Lys Gln Val Val Arg Ser
Trp Met Arg Gly Gly Ser Gly Leu Tyr Ala Pro Pro Ile Pro Gly Asn
Leu Thr Cys Ile Ser His Ile Thr Gly Met Ile Leu Gln Met Asp Ala
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Pro Trp Asn Lys Thr Glu Asn Thr Phe Arg Pro Ile Gly Gly Asp Met
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Lys Asp Ile Trp Arg Asn Glu Leu Phe Lys Tyr Lys Val Val Arg Val
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Val Arg Ile Val Met Ile Val Leu Asn Leu Val Arg Asn Ile Arg Gln
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Ala Glu Thr Pro Gly Arg Thr Gly Glu Gly Gly Asp Glu Gly Arg
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Asp Leu Arg Thr Ile Ile Leu Trp Ser Tyr His Leu Leu Ser Asn Leu
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Ile Ser Gly Thr Gln Thr Val Ile Ser His Leu Arg Leu Gly Leu Trp
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Ile Leu Gly Gln Lys Ile Ile Asp Ala Cys Arg Ile Cys Ala Ala Val
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Ile His Tyr Trp Leu Gln Glu Leu Gln Lys Ser Ala Thr Ser Leu Ile
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Asp Thr Phe Ala Val Ala Val Ala Asn Trp Thr Asp Asp Ile Ile Leu
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<213> Human Immunodeficiency Virus

<220>

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yooyougu	.54 505000		
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	11> 19 12> DNA	•	
		Immunodeficiency Virus	
		•	
_	20>		
<2	23> HIV-1	Group O (env15R) PCR reverse primer	
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	tg ctgcact	ta	19
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		•	
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_	11> 15		
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_			
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\2	.237 IIIV-I	Gloup O (envzok) FCk levelse pilmei	
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ر ع	20>		
		Group O (env7F) PCR forward primer	
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	00> 67		~ ~
rttaayta	at tgtaact	CCa Caa	23

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catcttggta tttatggcta ccgtgcaggc tttatccgtc gttacgtcaa ctggcagcca
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ctgggtttcc tgggtgctgc tggttctacc atgggtgctg cttctatgac cctgactgtt
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cagctgcgtg ctcgtctgct ggcactggaa accctgatcc agaaccagca gctgctgaac
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                                                                      1920
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	Gly	Lys	Pro 20		Val	Asp	Ile	Asn 25	Gly	Lys	Pro	Met	Ile 30		His
Val	Leu			Ala	Arg	Glu			Ala	Glu	Arg		Ile	Val	Ala
Thr	_	35 His	Glu	Asp	Val		40 Arg	Ala	Val	Glu		45 Ala	Gly	Gly	Glu
	50 Cys	Met	Thr	Arg		55 Asp	His	Gln	Ser		60 Thr	Glu	Arg	Leu	
65	1727	37 a T	C111	Lvc	70 Cvc	ח ד ת	Dho	Cor	7 cm	75	Thr	37a l	Ile	37 a l	80 7 an
GIU	Val	vaı	GIU	БУS 85	cys	Ата	Pne	ser	90	Asp	1111	Val	iie	95	ASII
Val	Gln	Gly	Asp 100	Glu	Pro	Met	Ile	Pro 105	Ala	Thr	Ile	Ile	Arg 110	Gln	Val
Ala	qaA	Asn 115	Leu	Ala	Gln	Arg	Gln 120	Val	Gly	Met	Ala	Thr 125	Leu	Ala	Val
Pro			Asn	Ala	Glu			Phe	Asn	Pro			Val	Lys	Val
Val	130 Leu	Asp	Ala	Glu	Gly	135 Tyr	Ala	Leu	Tyr	Phe	140 Ser	Arg	Ala	Thr	Ile
145					150					155					160
Pro	Trp	Asp	Arg	Asp 165	Arg	Phe	Ala	Glu	Gly 170	Leu	Glu	Thr	Val	Gly 175	Asp
Asn	Phe	Leu	Arg 180	His	Leu	Gly	Ile	Tyr 185	Gly	Tyr	Arg	Ala	Gly 190	Phe	Ile
Arg	Arg	Tyr 195	Val	Asn	Trp	Gln	Pro 200	Ser	Pro	Leu	Glu	His 205	Ile	Glu	Met
Leu	Glu 210		Leu	Arg	Val	Leu 215		Tyr	Gly	Glu	Lys 220		His	Val	Ala
Val		Gln	Glu	Val	Pro		Thr	Glv	Val	Asp		Pro	Glu	Asp	Pro
225					230	2		- 1		235					240
Ser	Thr	Ala	Leu	Met 245	Lys	Ile	Pro	Gly	Asp 250	Pro	Gly	Gly	Gly	Asp 255	Met
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Glu	Pro	Leu 275	Gly	Val	Ala	Pro	Thr 280	Lys	Ala	Lys	Arg	Arg 285	Val	Val	Gln
Arg	Glu 290		Arg	Ala	Val	Gly 295		Gly	Ala	Leu	Phe		Gly	Phe	Leu
Gly		Ala	Gly	Ser	Thr		Gly	Ala	Ala	Ser		Thr	Leu	Thr	Val
305			_		310		_			315					320
Gln	Ala	Arg	Gln	Leu	Leu	Ser	Gly	Ile	Val	Gln	Gln	Gln	Asn	Asn	Leu

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Lys Asp Gln Gln Leu Leu Gly Ile Trp Gly Cys Ser Gly Lys Leu Ile
                       375
                                          380
Cys Thr Thr Ala Val Pro Trp Asn Ala Ser Trp Ser Asn Lys Ser Leu
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Glu Gln Ile Trp Asn Asn Met Thr Trp Met Glu Trp Asp Arg Glu Ile
               405
                                  410
Asn Asn Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn
           420
                               425
Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Val
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Asn Arg Val Arg Gln Gly Tyr Ser Pro Leu Ser Phe Gln Thr His Leu
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Pro Ile Pro Arg Gly Pro Asp Arg Pro Glu Gly Ile Glu Glu Gly
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                                      475
Gly Glu Arg Asp Arg Asp Arg Ser Ile Arg Leu Val Ile Gly Gly Asp
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Met Lys Asp Ile Trp Arg Asn Glu Leu Phe Lys Tyr Lys Val Val Arg
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Val Lys Pro Phe Ser Val Ala Pro Thr Pro Ile Ala Arg Pro Val Ile
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Gly Thr Gly Thr His Arg Glu Lys Arg Ala Val Gly Leu Gly Met Leu
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Phe Leu Gly Val Leu Ser Ala Ala Gly Ser Thr Met Gly Ala Ala Ala
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Lys Gly Arg Leu Ile Cys Tyr Thr Ser Val Lys Trp Asn Glu Thr Trp
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Glu Trp Asp Gln Gln Ile Asp Asn Val Ser Ser Thr Ile Tyr Glu Glu
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Glu Leu Asp Glu Trp Ala Ser Leu Trp Asn Trp Leu Asp Ile Thr Lys
                       695
Trp Leu Arg Asn Ile Arg Gln Gly Tyr Gln Pro Leu Ser Leu Gln Ile
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<sup>&</sup>lt;211> 2124

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Human Immunodeficiency Virus

# <223> Nucleotide sequence of the coding regionof pGO-13CKS

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ctgggtatgc tgttcctggg cgttctgtct gcagcaggtt ccactatggg tgctgcagct
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cagctgcgtg ctcgtctgct ggcactggaa accctgatcc agaaccagca gctgctgaac
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gaacagaacg aaaaaaact gctggaactg gacgaatggg cttctctgtg gaactggctg
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<400> 93

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      Val
      Ile
      Ile
      Pro
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      Arg
      Tyr
      Ala
      Ser
      Thr
      Arg
      Leu

      1
      5
      10
      15

      Pro
      Gly
      Lys
      Pro
      Met
      Ile
      Val
      His

      20
      25
      30

      Val
      Leu
      Glu
      Arg
      Ala
      Glu
      Arg
      Ile
      Ile
      Ile
      Val
      Ala

      35
      40
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Thr
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    His
    Glu
    Asp
    Val
    Ala
    Arg
    Ala
    Val
    Glu
    Ala
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    Gly
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<sup>&</sup>lt;213> Human Immunodeficiency Virus

<sup>&</sup>lt;220>

<sup>&</sup>lt;223> Encodes recombinant protein pGO-13CKS

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Val	Gln	Gly	Asp 100	Glu	Pro	Met	Ile	Pro 105	Ala	Thr	Ile	Ile	Arg 110	Gln	Val
Ala	Asp	Asn 115	Leu	Ala	Gln	Arg	Gln 120	Val	Gly	Met	Ala	Thr 125	Leu	Ala	Val
Pro	Ile 130	His	Asn	Ala	Glu	Glu 135	Ala	Phe	Asn	Pro	Asn 140	Ala	Val	Lys	Val
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				165					170				Val	175	
			180					185	-			-	Gly 190		
_	_	195					200					205	Ile		
	210					215					220		His		
225					230	_		_		235			Glu	_	240
				245	_				250				Gly	255	
_	_		260					265					Val 270		
		275	_				280	_				285	Val Gly		
_	290	_	_			295		_			300		_		
305					310		_			315			Leu Asn		320
				325					330				Thr	335	
			340					345					350		
_		355					360					365	Arg Lys		
	370					375					380		Lys		
385					390					395			Arg		400
				405				_	410				Ser	415	
			420					425					430 Lys		
		435	_				440					445	Thr	_	
	450		_		_	455					460		Glu		•
465			_		470	_	_			475			Gly		480
			_	485	_				490				Val	495	
1-100	ъур	rop	500	115	rra	woll	Giu	505	FIIG	пур	ı yı	тур	510	Val	~+9

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Val Lys Pro Phe Ser Val Ala Pro Thr Pro Ile Ala Arg Pro Val Ile
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Gly Thr Gly Thr His Arg Glu Lys Arg Ala Val Gly Leu Gly Met Leu
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                                             540
Phe Leu Gly Val Leu Ser Ala Ala Gly Ser Thr Met Gly Ala Ala Ala
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Thr Ala Leu Thr Val Gln Thr His Ser Val Ile Lys Gly Ile Val Gln
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Gln Gln Asp Asn Leu Leu Arg Ala Ile Gln Ala Gln Glu Leu Leu
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                                585
                                                     590
Arg Leu Ser Val Trp Gly Ile Arg Gln Leu Arg Ala Arg Leu Leu Ala
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                        615
                                             620
Lys Gly Arg Leu Ile Cys Tyr Thr Ser Val Lys Trp Asn Glu Thr Trp
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Arg Asn Thr Thr Asn Ile Asn Gln Ile Trp Gly Asn Leu Thr Trp Gln
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Glu Trp Asp Gln Gln Ile Asp Asn Val Ser Ser Thr Ile Tyr Glu Glu
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Ile Gln Lys Ala Gln Val Gln Gln Gln Asn Glu Lys Lys Leu Leu
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      <213> Human Immunodeficiency Virus
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tcto gaca ccga	aacaacatga cttggatgga atgggaccgt gaaatcaaca actacacaag cttgatccac tetetgateg aagaaagcca gaaccagcag gaaaaaaacg aacaggaact tetagaactg gacaaatggg ttaaccgtgt tegteagggt tacteteege tgtettteea gacceatetg ecgateeege gtggteegga ecgteeggaa ggtategaag aagaaggegg egaacgtgae egtgaeegtt ecattegtet ggtataatag														
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Ala	Arg	Pro 35		Ile	Gly	Thr	Gly 40		His	Arg	Glu	Lys 45		Ala	Val
Gly	Leu	Gly	Met	Leu	Phe	Leu 55		Val	Leu	Ser	Ala 60		Gly	Ser	Thr
	Gly	Ala	Ala	Ala			Leu	Thr	Val			His	Ser	Val	
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Gln	Gln	Glu		85 Leu	Arg	Leu	Ser		90 Trp	Gly	Ile	Arg		95 Leu	Arg
Ala	Arg	Leu	100 Leu	Ala	Leu	Glu		105 Leu	Ile	Gln	Asn		110 Gln	Leu	Leu
Asn		115 Trp	Gly	Cys	Lys		120 Arg	Leu	Ile	Cys		125 Thr	Ser	Val	Lys
Trp	130 Asn	Glu	Thr	Trp	Ara	135 Asn	Thr	Thr	Asn	Ile	140 Asn	Gln	Ile	Trp	Glv
145				r	150	-				155				-	160
Asn	Leu	Thr	Trp	Gln 165	Glu	Trp	Asp	Gln	Gln 170	Ile	Asp	Asn	Val	Ser 175	Ser
Thr	Ile	Tyr	Glu 180	Glu	Ile	Gln	Lys	Ala 185		Val	Gln	Gln	Glu 190	Gln	Asn
Glu	Lys	Lys 195	Leu	Leu	Glu	Leu	Asp 200	Glu	Trp	Ala	Ser	Leu 205	Trp	Asn	Trp
Leu	Asp 210	Ile	Thr	Lys	Trp	Leu 215	Arg	Asn	Ile	Arg	Gln 220	Gly	Tyr	Gln	Pro
Leu 225	Ser	Leu	Gln	Ile	Pro 230		Arg	Gln	Gln	Ser 235	Glu	Ala	Glu	Thr	Pro 240
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Arg	Ser	Glu	Leu 260		Lys	Tyr	Lys	Val 265		Lys	Ile	Glu	Pro 270		Gly
Val	Ala	Pro 275		Lys	Ala	Lys	Arg 280		Val	Val	Gln	Arg 285		Lys	Arg
Ala	Val 290	Gly	Ile	Gly	Ala	Leu 295		Leu	Gly	Phe	Leu 300		Ala	Ala	Gly
Ser 305		Met	Gly	Ala	Ala 310		Met	Thr	Leu	Thr 315		Gln	Ala	Arg	Gln 320
	Leu	Ser	Gly	Ile 325		Gln	Gln	Gln	Asn 330		Leu	Leu	Arg	Ala 335	

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                                             380
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                                         395
                                                             400
Asn Asn Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr
                405
                                    410
                                                         415
Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys
            420
                                 425
                                                     430
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                                                 445
Gln Gly Tyr Ser Pro Leu Ser Phe Gln Thr His Leu Pro Ile Pro Arg
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<211> 1584

<212> DNA

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<220>

<223> Nucleotide sequence of the coding region of pGO-15CKS

<400> 96

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                                                                       420
geggtgaaag tggttetega egetgaaggg tatgeactgt actteteteg egecaceatt
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                                                                       600
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Tyr Thr Ser Val Lys Trp Asn Glu Thr Trp Arg Asn Thr Thr Asn Ile
                   390
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Asn Gln Ile Trp Gly Asn Leu Thr Trp Gln Glu Trp Asp Gln Gln Ile
               405
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Asp Asn Val Ser Ser Thr Ile Tyr Glu Glu Ile Gln Lys Ala Gln Val
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Gln Glu Glu Asn Glu Lys Lys Leu Leu Glu Leu Asp Glu Trp Ala
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                            440
Ser Leu Trp Asn Trp Leu Asp Ile Thr Lys Trp Leu Arg Asn Ile Arg
                        455
                                            460
Gln Gly Tyr Gln Pro Leu Ser Leu Gln Ile Pro Thr Arg Gln Gln Ser
                    470
                                        475
Glu Ala Glu Thr Pro Gly Arg Thr Gly Glu Gly Gly Ser Arg Leu
                                    490
Leu Ala Leu Glu Thr Leu Ile Gln Asn Gln Gln Leu Leu Asn Leu Trp
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      <212> DNA
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J J J.	
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	20>
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	12. Bunan Immunodeficiency Virus

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Glu	Val	Val	Glu	Lys 85	Cys	Ala	Phe	Ser	Asp 90	Asp	Thr	Val	Ile	Val 95	Asn
Val	Gln	Gly	Asp 100	Glu	Pro	Met	Ile	Pro 105	Ala	Thr	Ile	Ile	Arg 110	Gln	Val
Ala	Asp	Asn 115	Leu	Ala	Gln	Arg	Gln 120	Val	Gly	Met	Ala	Thr 125	Leu	Ala	Val
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145					150	_				155		Arg			160
				165					170			Thr		175	_
			180					185				Ala	190		
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	210					215					220	Ile			
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				245					250	•		Gly	_	255	
			260					265				Val	270		
		275					280					Arg 285			
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			•	325					330			Gln -		335	
			340					345				Leu	350		_
		355					360					365	_	_	Leu
	370					375				_	380	Gly	_		
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				405					410		_	Asp	_	415	
		-	420					425				Glu -	430		
		435					440					Asp 445	_	_	
Asn	Arg 450	Val	Arg	GIn	GIY	Tyr 455	Ser	Pro	Leu	Ser	Phe 460	Gln	Thr	His	Leu

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Arg Leu Arg Asp Leu Leu Leu Ile Val Thr Arg Ile Val Glu Leu Leu
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Lys Gly Ile	Val Gln 85	Gln Gln	Asp	Asn	Leu 90	Leu	Arg	Ala	Ile	Gln 95	Ala
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